SPHAEROPSIS SHOOT BLIGHT, CANKER & COLLAR ROT
WI DNR, Forest Health Protection, 2001

Formerly known as Diplodia, this fungal disease is present throughout much of Wisconsin's coniferous forests. More than 20 pine species are susceptible, yet red, jack and Scotch pine are most commonly infected in Wisconsin. There are three distinctly different symptoms caused by *Sphaeropsis sapinea*: 1) Shoot blight - mortality of elongating shoots, 2) Canker - branch mortality resulting from canker formation on the main stem and 3) Collar rot - whole tree mortality resulting from infection in the root collar zone.

Sphaeropsis sapinea survives on the cones, shoots, needles and bark of jack, red and Scotch pines. Spores are exuded from fungal fruit bodies (pycnidia) whenever it rains during the growing season.

SHOOT BLIGHT

Young, elongating shoots are infected in the spring. Infected shoots are brown and stunted or curled. Infections may occur in trees of all ages. The photo below shows numerous infected shoots on red pine.

CANKER

Cankers, or oblong, necrotic areas on the branches or stem, may also be observed. Cankers may form as a result of infection of wounds caused by hail, insects such as the pine spittlebug, and heavy snow loads. Whole branches or the top of the tree above girdling cankers may be killed.

Cankered areas are often sunken. Olive-green and brown resin-soaked tissue is common under the bark.

COLLAR ROT

Collar rot occurs when *Sphaeropsis sapinea* invades the tissue in the root collar area. *S. sapinea* may survive on the bark in the root collar area, causing no significant harm to the tree until stress becomes a factor. Research has shown a relationship between increased moisture stress and an increase in the rate of growth of Sphaeropsis. Infected trees may show top dieback or whole-tree mortality. Mortality appears to be highest the year of or one year following a drought and in plantings where J-rooting is common. A common sign of collar rot includes blue/black discoloration of the wood in the root collar zone.

Mortality appears to be highest on nutrient-poor/ very dry-dry sites where grasses and/or sedges are competing for moisture.